Register Number.....

B.TECH. DEGREE EXAMINATIONS: NOVEMBER 2009

Fifth Semester

INFORMATION TECHNOLOGY

U07IT504: Operating Systems

Three Hours **Maximum Marks: 100**

Answer ALL the Questions:-

PART A (10 × 1 = 10 Marks)

1. _____ were the first computer used to tackle many commercial and scientific application
   a) Batch Systems b) Time-shared systems
   c) Multiprogrammed systems d) Mainframe Computer Systems
2. Software may trigger an interrupt by executing a special operation called a _____
   a) Interrupt call b) System call or monitor call c) procedure call d) software call
3. A thread is sometimes called a _____
   a) light weight process b) Medium weight process
   c) heavy weight process d) multithread process.
4. A thread that is to be cancelled is often referred to as _____
   a) target thread b) first thread c) error thread d) middle thread
5. _____ is a set of methods for ensuring that at least one of the necessary condition
   a) Deadlock avoidance b) deadlock preventation
   c) deadlock detection d) Mutual exclusion
6. Physical memory is broken into fixed-sized blocks called _____
   a) page b) segment c) frames d) fragments
7. Access to a page marked invalid causes a _____
   a) page fault trap b) page fault frequency c) memory leak d) segmentation fault
8. If there is no free frame, a page replacement algorithm has to be used to select a _____ frame.
   a) faulty frame b) first frame c) middle frame d) victim frame
9. The _____ module knows about files and their logical blocks as well as physical blocks
   a) file organization b) directory organization c) page organization d) data organization

10. _____ is a memory area that stores data while they are transferred betw devices (or) between a device and an application.

a) file b) heap c) buffer d) page

PART B (10 x 2 = 20 Marks)

11. What is the use of control program?
12. List out the responsibilies of the operating system for the activities in connecti disk management.
13. List out the components of the conflict phase of dispatch latency.
14. What is semaphore?
15. Define system resource allocation graph.
16. What do you mean by starvation?
17. What is thrashing? 25.
18. Define stack algorithm.
19. Define collisions in hash table.
20. What is nonmaskable interrupt?

PART C (5 x 14 = 70 Marks)

21. a) Discuss about mainframe systems.

(OR)

b) List out the services of operating system and explain each.

22. a) i)What are the major categories of the multithreaded programming benefits. each.

ii) Write short notes on multiple processor scheduling.

(OR)

b) Write short notes on the following scheduling algorithms.

i. First-come, first served scheduling

ii. Shortest-job-first scheduling

iii. Priority scheduling

23. a) Discuss about deadlock prevention approaches.

(OR)

b) Discuss about deadlock detection.

24. a) Write short notes on the following page replacement algorithms. Give example

i. FIFO page replacement

ii. Optimal page replacement

iii. LRU page replacement

(OR)

b) Write short notes on directory structure with diagram.

i. Single – level directory

ii. Two level directory

iii. Tree structure directory

25. a) Write short notes on the following

i. Contiguous allocation

ii. Linked allocation

(OR)

b) Discuss about kernel I/O subsystem

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